Appln No. 09/882,351
Response date December 30, 2003
Reply to Office action of October 1, 2003

REMARKS/ARGUMENTS

Reconsideration and reexamination of the above-referenced application is hereby requested in view of the following remarks.

Claims 1 - 5, 7 - 15 and 17 - 23 are now in the application.

The Examiner has rejected under 35 U.S.C. §103: Claims 1 , 2, 5, 7, 10 - 13 and 21 as being unpatentable over Rourke et al.; Claims 3, 4 and 23 as being unpatentable over Rourke et al. in view of Walker, Jr. et al.; Claims 8, 9, 14, 17 - 20 and 22 as being unpatentable over Rourke et al. in view of Takahashi et al.; and Claim 15 as being unpatentable over Rourke et al. in view of Takahashi et al. and further in view of Walker, Jr. et al.

The Applicants' independent Claim 1 calls for (underlining added for emphasis) ... A method of preparing positive active material for a lithium secondary battery comprising: ... preparing a coating solution by dissolving a conductive polymer, a conductive agent, and an ionic conductive polymer different from the conductive polymer in a solvent; and ... coating lithium complex metal oxide particles with the coating solution to thereby encapsulate the particles with the coating solution.

The positive active material in accordance with Claim 1 has a coating layer which includes a conductive agent, which the Applicants submit is not described, taught or suggested in Rourke et al. A positive active material coated with the conductive agent can improve the density of the active material in a fabricated electrode since the amount of the conductive

agent can be reduced when fabricating an electrode, resulting in an improvement of capacity.

Further, while Rourke et al. may teach preparing a cathode material wherein insertion compound particles are encapsulated in an electronic and ionic conducting polymer to form the cathode material, the Applicants submit that a coating solution containing an ionic conductive polymer (a polyethylene oxide) alone can not improve cycle life characteristics at high temperature. A positive active material, $LiMn_2O_4$ coated with only a polyethylene oxide has similar life characteristics to bare $LiMn_2O_4$, as seen for Comparative Example 2 of the present application.

As such, the Applicants submit that the invention as claimed in Claim 1 is not unpatentable over Rourke et al.

Claims 2 - 5, 7 - 13 and 21 are dependent on Claim 1. As such, these claims are believed allowable based upon Claim 1.

The Applicants' independent Claim 14 calls for (underlining added for emphasis) ... A method of preparing positive active material for a lithium secondary battery comprising: ... preparing a coating solution by dissolving a conductive polymer, a conductive agent, and an ionic conductive polymer different from the conductive polymer in a solvent; and ... coating lithium-containing manganese-based metal oxide particles with the coating solution to thereby encapsulate the particles with the coating solution.

As such, the Applicants submit that the invention as claimed in Claim 14 is neither taught, described or suggested in Rourke for the same reasons set forth above for Claim 1, even if

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Takahashi et al teaches that V_2O_5 is functionally equivalent to $LiMn_2O_4$ for use as a cathode material.

Claims 15. 17 - 20, 22 and 23 are dependent on Claim 14. As such, these claims are believed allowable based upon Claim 14.

Accordingly, in view of the above remarks it is submitted that the claims are patentably distinct over the prior art and that all the rejections to the claims have been overcome. Reconsideration and reexamination of the above Application is requested.

Respectfully submitted,
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